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EPR of Gd3+ in Na2Cd(SO4) 22H2O, comparison with previous results obtained for Fe3+

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Abstract

An EPR experiment on Gd3+ in a single crystal of Na 2Cd(SO4)22H2O (CdK) was carried out at Q band frequency and nitrogen temperature. Two spectra related by symmetry were observed. All spin Hamiltonian constants have been calculated. The pseudosymmetries of the fourth-order term of the spin Hamiltonian are compared to those of Fe3+. It is observed that the substitution of Gd 3+ for Cd2+ induced a very important local distortion of the host lattice, which is discussed. © 1985 American Institute of Physics.